LESSON 50

Objective

- To give practice with changing improper fractions to whole or mixed numbers and vice versa.

Review

1. *Fraction terms* (Lesson 49). Review *numerator, denominator, whole number, mixed number, proper fraction,* and *improper fraction.*
2. *Reducing fractions* (Lesson 49).
   $\frac{4}{8}$ ($\frac{1}{2}$) $\frac{24}{6}$ (4) $\frac{8}{32}$ ($\frac{1}{4}$) $\frac{16}{32}$ ($\frac{1}{2}$) $\frac{15}{45}$ ($\frac{1}{3}$)
3. *Finding the lowest common multiple* (Lesson 48).
   a. 9, 12 (l.c.m. = 36)
   b. 20, 30 (l.c.m. = 60)
   c. 12, 21 (l.c.m. = 84)
   d. 21, 35 (l.c.m. = 105)
4. *Liquid and dry measure* (Lesson 34).
   a. 1 gal. = (4) qt.
   b. 1 pk. = (8) qt.
   c. 1 bu. = (4) pk.
   d. 1 cup = (16) tbsp.
   e. 4 pk. = (32) qt.
   f. 16 qt. = (4) gal.
5. *Multiplication and casting out nines* (Lesson 16, 17). No class review is necessary.

Introduction

Ask the students to write a fraction expressing the number of pairs that can be made from 6 shoes. (6/2) How many pairs of shoes are 6/2 pairs? (3 pairs) The solution is found by division: 6 ÷ 2 = 3. The same method is used for changing any improper fraction to a whole or a mixed number.

Teaching Guide

1. **To change an improper fraction to a whole number or a mixed number, divide the numerator of the improper fraction by its denominator.** Express any remainder as a fraction in lowest terms.
   a. $\frac{18}{3} = 3\overline{)18}^{\,6}$ b. $\frac{19}{8} = 8\overline{)19}^{\,2\frac{3}{8}}$
   c. $\frac{16}{6} = 6\overline{)16}^{\,2\frac{4}{6}} = 2\frac{2}{3}$
2. **To change a whole number to an improper fraction, write the whole number as the numerator and 1 as the denominator of the improper fraction.**
   a. $3 = \frac{3}{1}$ b. $18 = \frac{18}{1}$ c. $107 = \frac{107}{1}$
3. **To change a mixed number to an improper fraction, multiply the whole number by the denominator of the fraction, add the product to the numerator, and write the sum as the numerator over the denominator of the original fraction.**
   a. $2\frac{2}{5} = \frac{5 \times 2 + 2}{5} = \frac{12}{5}$
   b. $10\frac{1}{3} = \frac{3 \times 10 + 1}{3} = \frac{31}{3}$
   c. $4\frac{7}{8} = \frac{8 \times 4 + 7}{8} = \frac{39}{8}$
   d. $9\frac{7}{10} = \frac{10 \times 9 + 7}{10} = \frac{97}{10}$